

D. Nikodem

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AUG 17 2000

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1633

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/471,669

DATE: 08/14/2000  
TIME: 15:44:53

Input Set : A:\228-US-NEW.txt  
Output Set : N:\CRF3\08142000\I471669.raw

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See P. 5

4 <110> APPLICANT: Anderson, John P.  
5 Basi, Guriqbal  
6 Doane, Minh Tam  
7 Frigon, Normand  
8 John, Varghese  
9 Power, Michael  
10 Sinha, Sukanto  
11 Tatsuno, Gwen  
12 Tung, Jay  
13 Wang, Shuwen  
14 McConlogue, Lisa  
16 <120> TITLE OF INVENTION: Beta-Secretase Enzyme Compositions and  
17 Methods  
19 <130> FILE REFERENCE: 228-US-NEW  
21 <140> CURRENT APPLICATION NUMBER: US 09/471,669  
22 <141> CURRENT FILING DATE: 1999-12-24  
24 <150> PRIOR APPLICATION NUMBER: 60/114,408  
25 <151> PRIOR FILING DATE: 1998-12-31  
27 <150> PRIOR APPLICATION NUMBER: 60/119,571  
28 <151> PRIOR FILING DATE: 1999-02-10  
30 <150> PRIOR APPLICATION NUMBER: 60/139,172  
31 <151> PRIOR FILING DATE: 1999-06-15  
33 <160> NUMBER OF SEQ ID NOS: 102  
35 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
37 <210> SEQ ID NO: 1  
38 <211> LENGTH: 1503  
39 <212> TYPE: DNA  
40 <213> ORGANISM: Homo sapiens  
42 <400> SEQUENCE: 1  
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44 ggcacccagc acggcatccg gctgcccctg cgcagcggcc tggggggcgc cccctgggg 120  
45 ctgcggctgc cccgggagac cgacgaagag cccgaggagc ccggccggag gggcagcttt 180  
46 gtggagatgg tggacaacct gaggggcaag tcggggcagg gctactacgt ggagatgacc 240  
47 gtgggcagcc cccgcagac gctcaacatc ctggtggata caggcagcag taactttgca 300  
48 gtgggtgctg cccccaccc cttcctgcat cgctactacc agaggcagct gtccagcaca 360  
49 taccgggacc tccggaagg tgtgtatgct ccctacaccc agggcaagtg ggaaggggag 420  
50 ctgggcaccg acctggtaag catcccccat ggccccaacg tcaactgtgc tgccaacatt 480  
51 gctgccatca ctgaatcaga caagttcttc atcaacggct ccaactggga aggcacccctg 540  
52 gggctggcct atgctgagat tgccaggcct gacgactccc tggagccttt ctttgactct 600  
53 ctggtaaaagc agaccacagt tcccaacctc ttctccctgc agcttttggtg tctgtgcttc 660  
54 cccctcaacc agtctgaagt gctggcctct gtcggaggga gcatgatcat tggaggatc 720  
55 gaccactcgc tgtacacagg cagtctctgg tatacaccca tccggcggga gtggtattat 780  
56 gaggtgatca ttgtgcgggt ggagatcaat ggacaggatc tgaaaatgga ctgcaaggag 840  
57 tacaactatg acaagagcat tgtggacagt ggcaccacca accttcgttt gcccaagaaa 900  
58 gtgtttgaag ctgcagtcac atccatcaag gcagcctcct ccacggagaa gttccctgat 960  
59 ggtttctggc taggagagca gctggtgtgc tggcaagcag gcaccacccc ttggaacatt 1020  
60 ttcccagtc tctcactcta cctaattgggt gaggttacc accagtcctt ccgcatcacc 1080

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61 atccttcgcg agcaatacct gcggccagtg gaagatgttg ccacgtccca agacgactgt 1140
62 tacaagtttg ccatctcaca gtcattccag ggcactgtta tgggagctgt tatcatggag 1200
63 ggctttctacg ttgtctttga tcggggccga aaacgaattg gctttgctgt cagcgcttgc 1260
64 catgtgcacg atgagttcag gacggcagcg gtggaaggcc cttttgtcac cttggacatg 1320
65 gaagactgtg gctacaacat tccacagaca gatgagtcaa ccctcatgac catagcctat 1380
66 gtcattgctg ccatctgcgc cctcttcacg ctgccactct gcctcatggt gtgtcagtgg 1440
67 cgctgcctcc gctgctgcg ccagcagcat gatgactttg ctgatgacat ctcctgtctg 1500
68 aag 1503
70 <210> SEQ ID NO: 2
71 <211> LENGTH: 501
72 <212> TYPE: PRT
73 <213> ORGANISM: Homo sapiens
75 <400> SEQUENCE: 2
76 Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
77 1 5 10 15
78 Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
79 20 25 30
80 Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
81 35 40 45
82 Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
83 50 55 60
84 Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
85 65 70 75 80
86 Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
87 85 90 95
88 Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
89 100 105 110
90 Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
91 115 120 125
92 Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
93 130 135 140
94 Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
95 145 150 155 160
96 Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
97 165 170 175
98 Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
99 180 185 190
100 Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
101 195 200 205
102 Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
103 210 215 220
104 Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
105 225 230 235 240
106 Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
107 245 250 255
108 Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
109 260 265 270
110 Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
111 275 280 285

```

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```

112 Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
113      290      295      300
114 Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
115 305      310      315      320
116 Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
117      325      330      335
118 Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
119      340      345      350
120 Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
121      355      360      365
122 Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
123      370      375      380
124 Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
125 385      390      395      400
126 Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
127      405      410      415
128 Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu
129      420      425      430
130 Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro
131      435      440      445
132 Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala
133      450      455      460
134 Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp
135 465      470      475      480
136 Arg Cys Leu Arg Cys Leu Arg Gln Gln His Asp Asp Phe Ala Asp Asp
137      485      490      495
138 Ile Ser Leu Leu Lys
139      500
141 <210> SEQ ID NO: 3
142 <211> LENGTH: 24
143 <212> TYPE: DNA
144 <213> ORGANISM: Homo sapiens
146 <400> SEQUENCE: 3
147 gagagacgar garccwgagg agcc
149 <210> SEQ ID NO: 4
150 <211> LENGTH: 24
151 <212> TYPE: DNA
152 <213> ORGANISM: Artificial Sequence
154 <220> FEATURE:
155 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
156 ID NO: 2
158 <400> SEQUENCE: 4
159 gagagacgar garccwgaag agcc
161 <210> SEQ ID NO: 5
162 <211> LENGTH: 24
163 <212> TYPE: DNA
164 <213> ORGANISM: Artificial Sequence
166 <220> FEATURE:
167 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ

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24

24

RAW SEQUENCE LISTING                      DATE: 08/14/2000  
 PATENT APPLICATION:    US/09/471,669        TIME: 15:44:53

Input Set : A:\228-US-NEW.txt  
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```

168      ID NO: 2
170 <400> SEQUENCE: 5
171 gagagacgar garccwgaag aacc                24
173 <210> SEQ ID NO: 6
174 <211> LENGTH: 24
175 <212> TYPE: DNA
176 <213> ORGANISM: Artificial Sequence
178 <220> FEATURE:
179 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
180      ID NO: 2
182 <400> SEQUENCE: 6
183 gagagacgar garccwgagg aacc                24
185 <210> SEQ ID NO: 7
186 <211> LENGTH: 23
187 <212> TYPE: DNA
188 <213> ORGANISM: Artificial Sequence
190 <220> FEATURE:
191 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
192      ID NO: 2
194 <400> SEQUENCE: 7
195 agagacgarg arccsgagga gcc                23
197 <210> SEQ ID NO: 8
198 <211> LENGTH: 23
199 <212> TYPE: DNA
200 <213> ORGANISM: Artificial Sequence
202 <220> FEATURE:
203 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
204      ID NO: 2
206 <400> SEQUENCE: 8
207 agagacgarg arccsgaaga gcc                23
209 <210> SEQ ID NO: 9
210 <211> LENGTH: 23
211 <212> TYPE: DNA
212 <213> ORGANISM: Artificial Sequence
214 <220> FEATURE:
215 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
216      ID NO: 2
218 <400> SEQUENCE: 9
219 agagacgarg arccsgaaga acc                23
221 <210> SEQ ID NO: 10
222 <211> LENGTH: 23
223 <212> TYPE: DNA
224 <213> ORGANISM: Artificial Sequence
226 <220> FEATURE:
227 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
228      ID NO: 2
230 <400> SEQUENCE: 10
231 agagacgarg arccsgagga acc                23
233 <210> SEQ ID NO: 11

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## RAW SEQUENCE LISTING

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Input Set : A:\228-US-NEW.txt

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```

234 <211> LENGTH: 23
235 <212> TYPE: DNA
236 <213> ORGANISM: Artificial Sequence
238 <220> FEATURE:
239 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
240 ID NO: 2
242 <400> SEQUENCE: 11
243 cgtcacagrt trtcaaccat ctc 23
245 <210> SEQ ID NO: 12
246 <211> LENGTH: 23
247 <212> TYPE: DNA
248 <213> ORGANISM: Artificial Sequence
250 <220> FEATURE:
251 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
252 ID NO: 2
254 <400> SEQUENCE: 12
255 cgtcacagrt trtctaccat ctc 23
257 <210> SEQ ID NO: 13
258 <211> LENGTH: 23
259 <212> TYPE: DNA
260 <213> ORGANISM: Artificial Sequence
262 <220> FEATURE:
263 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
264 ID NO: 2
266 <400> SEQUENCE: 13
267 cgtcacagrt trtccaccat ctc 23
269 <210> SEQ ID NO: 14
270 <211> LENGTH: 23
271 <212> TYPE: DNA
272 <213> ORGANISM: Artificial Sequence
274 <220> FEATURE:
275 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
276 ID NO: 2
278 <400> SEQUENCE: 14
279 cgtcacagrt trtcgaccat ctc 23
281 <210> SEQ ID NO: 15
282 <211> LENGTH: 23
283 <212> TYPE: DNA
284 <213> ORGANISM: Artificial Sequence
286 <220> FEATURE:
287 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
288 ID NO: 2
290 <400> SEQUENCE: 15
291 cgtcacagrt trtcaaccat ttc 23
293 <210> SEQ ID NO: 16
294 <211> LENGTH: 23
295 <212> TYPE: DNA
296 <213> ORGANISM: Artificial Sequence
298 <220> FEATURE:

```

← F.V.I.

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

## VERIFICATION SUMMARY

DATE: 08/14/2000

PATENT APPLICATION: US/09/471,669

TIME: 15:44:54

Input Set : A:\228-US-NEW.txt

Output Set: N:\CRF3\08142000\I471669.raw

L:378 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22  
L:393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23  
L:408 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24  
L:423 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25  
L:438 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26  
L:453 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27  
L:468 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28  
L:483 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29  
L:542 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34  
L:557 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35  
L:572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36  
L:587 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37  
L:941 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48  
L:942 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48  
L:943 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48  
L:1453 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61  
L:1943 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72  
L:1959 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:73  
L:2087 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76  
L:2114 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78  
L:2156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:81